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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------|------------------|
| 10/632,076 | 07/31/2003 | Serge Lasserre | TI-35424 (1962-05403) | 2218 |
| 23494 | 7590 | 11/07/2005 | EXAMINER | |
| TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265 | | | GU, SHAWN X | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2189 | |

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/632,076 | Applicant(s) LASSERRE ET AL. | |
| | Examiner Shawn Gu | Art Unit 2189 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,10,11,13,14,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3,4,7-9,12,15-18,21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/31/03, 5/31/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) and domestic priority under 35 U.S.C. 119(e).

This Office Action is responsive to the application filed on 31 July 2003. Claims 1-21 are presented for examination.

Claims 1-21 are pending.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 31 July 2003 and 31 May 2005 were filed after the mailing date of the application on 31 July 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Specification

The disclosure is objected to because of the following informalities: the specification (on Page 23) mentions an item (data array 128) that is not included in the corresponding drawing (Figure 9).

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show Item 128 (data array) in Figure 9 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In the claim the applicant describes "setting a value indicative of which variables are used by finished methods and which variables are used by unfinished methods", while the specification only discloses that such a value is set for local variables. The examiner is rejecting the claim in light of the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claims 1 and 10, it is unclear to the examiner whether the phrase "local variables are fetched from memory" is referring to local variables in the first group, in the second group, in both groups, in other some other place. Further clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 6, 10, 11, 13, 14, 19 and 20 are rejected under 35 U.S.C. 102(b) as being unpatentable over Tremblay et al. [6,067,602] (hereinafter "Tremblay").

As for claims 1, 10 and 19, Tremblay discloses:

A processor (Fig 3B, Stack-Based Computing System 300) adapted to couple to external memory (Fig 7, Main Memory 750), comprising:

a processing core on which a plurality of methods execute (Figs 4A, 4B, 4C, 4D; Col 4, Lines 27-53); and

a cache subsystem (Fig 3B, the combination of 310, 320, 330, and 340) accessible to the processing core and comprising a data memory (Fig 3B, combination

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of Stack 310 and Stack 320) coupled to a cache controller (a cache controller must exist to operate the Stack Cache Management Units 330 and 340), the data memory holds a contiguous block of memory (Figs 4A-4D; stacks are contiguous blocks of memory) defined by an address stored in a register accessible to the cache controller (a stack is addressed by a stack pointer address held in a stack pointer register);

wherein the data memory is adapted to store a first group of local variables associated with finished methods (Fig 4D; Stack 310 stores local variables of methods B and D, which can be finished at a point in time when methods A and C are still executing, according to the principle described in Col 7, Lines 38-43) and a second group of local variables associated with unfinished methods (Fig 4D; Stack 320 stores local variables of methods A and C); and

wherein, based on a threshold value, local variables are fetched from memory that is external to the cache subsystem or saved to the external memory (Col 7, Lines 10-43).

As for claim 19, it is clear that the method is performed by the system of claim 10.

As for claims 2 and 11, Tremblay further discloses that the threshold value comprises an address that points to a line in the data memory that separates the first and second groups (Fig 4D; Areas A, B, C, and D are separate memory regions, and

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therefore when local variables associated with a method are fetched from or saved to the external memory, an address is used as the threshold value).

As for claims 5 and 13, Tremblay furthers discloses that methods are invoked and each time a method is invoked, the threshold address is adjusted (Col 7, Lines 10-38).

As for claims 6 and 14, Tremblay furthers discloses that the threshold address also is adjusted when a method finishes (Col 7, Lines 38-43).

As for claim 20, in the above claims Tremblay already discloses that setting the value includes determining the address that separates the storage regions of the first and second groups of local variables, and the groups of local variables are stored in stacks, which are addressed by a stack pointer address held in a stack pointer register in a computing system. Therefore, it is clear in Tremblay's invention that setting the value includes adjusting a pointer address.

Allowable Subject Matter

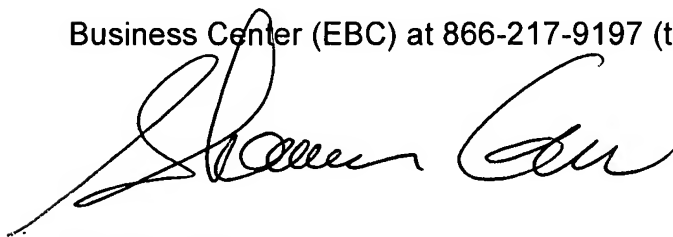
Claims 3, 4, 7-9, 12, 15-18 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn Gu whose telephone number is (571) 272-0703. The examiner can normally be reached on 9am-5pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571)272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shawn X Gu
Assistant Examiner
Art Unit 2189

31 October 2005



KEVIN VERBRUGGE
PRIMARY EXAMINER